



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,351	06/23/2003	Friedhelm Mueller	Q75326	7108
23373	7590	04/09/2004	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			CYGAN, MICHAEL T	
			ART UNIT	PAPER NUMBER
			2855	

DATE MAILED: 04/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/600,351

Applicant(s)

MUELLER, FRIEDHELM

Examiner

Michael Cygan

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-7 is/are rejected.
- 7) ☒ Claim(s) 2 and 3 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 15 December 2003.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Martin (US 3,263,488). Martin discloses the claimed invention, a gas chromatograph (Figure 1) having a separation column [28,34] and two thermal conductivity detectors [18,22] having cross-sectional dimensions corresponding substantially the cross-sectional dimensions of the separation device, and computation unit [38] which provides a quantitative determination of the partially separated substances (Figure 2(I)) and a further quantitative determination of the fully separated substances (Figure 2(II)) through an additive computation (Figure 2(IV)). See entire document, particularly column 1 lines 13-27 and columns 3-4.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin (US 3,263,488) in view of Rhodes (US 3,937,061). Martin teaches the claimed invention (including a thermal conductivity detector (comprised of both 18 and 22) working alternately as detector and additional detector) except for thwo of the heating resistors arranged in the measuring path. Rhodes teaches a thermal conductivity detector having two heating resistors [58,60] located opposite each other in two different bridge halves arranged in the measuring path (Figure 1 and column 3 line 54 through column 4 line 12). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use thermal conductivity detectors as taught by Rhodes in the invention taught by Martin to form the detectors, since Rhodes teaches the advantage of improved signal response thereby.
3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin (US 3,263,488) in view of DeFord (US 4,181,006). Martin teaches the claimed invention except for a computational unit which comprises an algorithm, memory unit, comparator unit, and correctional algorithm. DeFord teaches a computational unit for comparing responses from two thermal conductivity detectors (column 7 lines 1-8) of a gas chromatograph, computing a quantitative determination of the separated substances through

variable parameters of an algorithm, storing the determination in a memory unit, comparing the detector responses, and applying a correction algorithm to alter the computational algorithm. See Figure 1 and columns 1-7. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the computational unit taught by DeFord in the invention taught by Martin to quantitatively determine the separated components, since this is taught to eliminate the need for calibration of the detector (column 1 lines 5-9).

Allowable Subject Matter

4. Claims 2 and 3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is a statement of reasons for the indication of allowable subject matter: the claims are directed towards unobvious improvement over the invention patented in U. S. Patent Number 3,263,488, where the improvement comprises a rate-of-change based operation of a process control device controlled by the evaluation device as set forth in the claims.

Conclusion

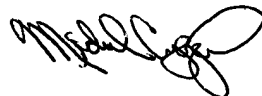
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gas chromatographs having similar components are

taught by Taylor (US 3,141,323), DeFord (3,159,019), Hinsvark (US 3,304,159), Loyd (US 3,330,150), Favre (US 3,403,978), Hozumi (US 3,451,779), Sanford (US 3,483,731), Kantor (US 4,546,649), and Cortes (US 5,240,604).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Cygan whose telephone number is (571) 272-2175. The examiner can normally be reached on 8:30-6 M-Th, alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael Cygan
Primary Examiner
Art Unit 2855